U.S. Fish & Wildlife Service

Currents

REGION 2 – SOUTHWEST REGION

Fisheries Program Highlights

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Edited by Mark J. Brouder, Arizona FRO

Bradley Clarkson, Fish Biologist at the Williams Creek Unit of the Alchesay-Williams Creek National Fish Hatchery Complex, strips eggs from a gravid female Apache trout.

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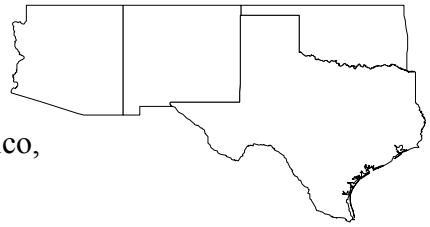
Region 2 – Southwest Region



The Southwest Regional Office, located in Albuquerque, New Mexico, administers 12 fisheries field stations in Arizona, New Mexico, Oklahoma, and Texas.

The Division of Fishery Resources in the Southwest encompasses 3 Fishery Resources Offices, 5 National Fish Hatcheries, 3 Fish Technology Centers, and 1 Fish Health Center. The Division of Fishery Resources also has responsibility to control aquatic invasive species.

Fishery Resources Offices

The 3 Fishery Resources Offices (Arizona Fishery Resources Office, New Mexico Fishery Resources Office, and Oklahoma Fishery Resources Office) evaluate wild native fish stocks and their habitats, and where feasible, work with partners to restore habitats and fish populations.

These offices provide technical fish management assistance to tribes and other partners with a primary focus on native and interjurisdictional species.

National Fish Hatcheries

The National Fish Hatcheries (Willow Beach, Alchesay-Williams Creek, Uvalde, Tishomingo, and Inks Dam) develop and maintain brood stocks of important fish species, both sport fishes and critically imperiled non-game fishes. The hatcheries are the source of fish and eggs distributed to partners with similar aquatic conservation missions, such as native fish restoration or fulfilling federal mitigation responsibilities.

Hatcheries are often called upon to provide a place of refuge for imperiled aquatic organisms, such as aquatic plants and amphibians.

Fish Technology Centers

The Fish Technology Centers (Dexter, Mora, and San Marcos) develop leading-edge technology for use by tribal, state, and federal fish hatcheries and fishery biologists to make fish culture more productive, cost-effective, and scientifically sound.

Technology improves hatchery efficiency, helps assure the genetic integrity of fishes, at the same time minimizing the effects of hatchery fish on wild fish stocks.

Private aquaculture industry also benefits from scientific information generated by the Fish Technology Centers.

Fish Health Center

Pinetop Fish Health Center biologists assess the well-being of fish that live in the wild or are raised at hatcheries. Fish health biologists are highly trained in various scientific disciplines, like immunology, epidemiology, toxicology, and genetics. They apply that knowledge in fish health assessments that might lead to early detection of potentially devastating diseases, prescribing preemptive measures.

The National Wild Fish Health Survey allows biologists to assess wild stocks and to share scientific findings with other scientists or the public through a national database.

Fish health assessments at state and federal hatcheries promote good fish culture and ultimately better, healthier fish stocks.

The U.S. Fish & Wildlife Service's fish health program takes a proactive and cooperative approach, networking with other health professionals to ensure healthy fisheries.

-USFWS
A broodstock female Apache trout ready for artificial spawning in the hatchery.

Alchesay-Williams Creek National Fish Hatchery Complex Spawns Native Apache Trout

The Apache trout, Arizona's state fish, is native to high mountain streams, was listed as an endangered species in 1973, then reclassified as threatened in 1975. These beautiful golden and olive-green trout were initially spawned and cultured in 1986 at the Alchesay-Williams Creek National Fish Hatchery Complex after several years of hatching and rearing wild trout collected from the East Fork of the White River. Spawning has continued yearly, and methods have improved, allowing propagation of hatchery-reared Apache trout for recreational fishing programs throughout the White Mountains of Arizona. Since the start of 2005, Alchesay-Williams Creek NFH Complex has completed seven weeks of Apache trout spawning at the Williams Creek Unit. Spawning started on January 5, 2005, with seven ripe females, and has progressed weekly. Through mid-February, a total of 242 females and 273 males have been spawned, yielding 273,000 eggs. Apache trout spawning is expected to continue through the end of March, collecting a total of 800,000 eggs to fulfill stocking requirements of 125,000 8" catchable size fish for the White Mountain Apache Tribe's recreational fishing program. In addition, 250,000 of the eyed eggs will be given to the Arizona Game and Fish Department for other state managed recreational fishing programs. The selection of 6,000 of the progeny for future broodstock will help ensure the propagation of Apache trout for years to come.

Sherry White, Williams Creek NFH

Sexually Mature Razorback Suckers Introduced into a Native Fish Protected Habitat on Imperial National Wildlife Refuge

The Arizona FRO introduced 64 sexually mature endangered razorback suckers and several yards of ¾" gravel into Ducks Unlimited Pond 1 located on the Imperial National Wildlife Refuge in hopes that these fish will successfully spawn, allowing for recruitment and establishment of an additional year-class. To date, no larval razorback suckers have been collected. In November of 2004, the Arizona FRO estimated that approximately 4,500 razorback suckers were present in Pond 1, surviving from an initial stocking of 10,000 fingerling razorback suckers the previous March. The 64 sexually mature razorback suckers originated from Cibola High Levee Pond located on the Cibola National Wildlife Refuge. Management of the Ducks Unlimited Ponds, Cibola High Levee Pond, and other isolated, off-channel backwater habitats along the lower Colorado River has been identified as an integral component of ensuring this "big-river" fish species' longevity in the lower Colorado River basin.

Chuck Minckley, Arizona FRO

-USFWS
Chuck Minckley, Arizona FRO Fisheries Project Coordinator, releases adult razorback suckers into Ducks Unlimited Pond 1 on Imperial National Wildlife Refuge.

Tishomingo National Fish Hatchery Continues Paddlefish Recovery Efforts

Paddlefish were considered to be extirpated from the waters above Denison Dam by the mid 1950s. Efforts by Tishomingo National Fish Hatchery to reestablish self-sustaining populations of paddlefish continued in early 2005 and will remain a high priority throughout

the remainder of the year. Meeting annual stocking requirements also remains a goal of "Tish", especially after having been able to meet them last year due to improved spawning and rearing techniques that were developed at this facility, improvements to culture units, and the donation of over 1,200 volunteer hours.

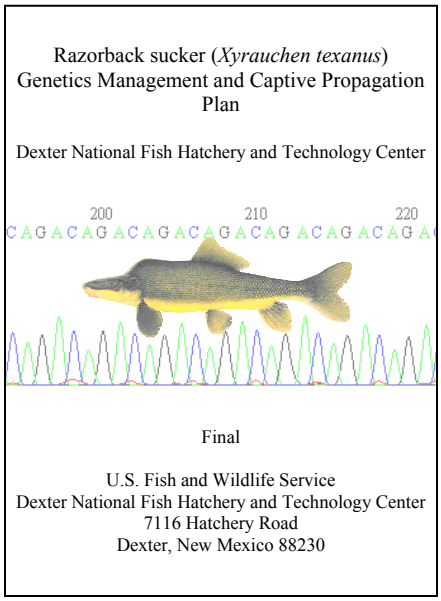
Kerry Graves, Tishomingo NFH

Dexter National Fish Hatchery and Technology Center Completes Razorback Sucker Genetics Management and Captive Propagation Plan

The razorback sucker, *Xyrauchen texanus,* was listed as an endangered species in 1991 under the Endangered Species Act of 1973, as amended. The immediate conservation goals for razorback sucker in the lower basin are to avert extirpation of the Lake Mohave population and to conserve it as a genetic resource. Controlled propagation of the species at designated facilities and reintroduction of fish into historic habitats are viable strategies and approaches to prevent imminent loss and reestablish populations. Dexter National Fish Hatchery & Technology Center (Dexter NFHTC) has contributed to the overall conservation effort since 1981.

This Genetic Management and Captive Propagation Plan (Plan) describes the guidelines used at the Dexter NFHTC for developing and maintaining razorback broodstocks, experimental populations, and refugia maintenance. The Plan focuses primarily on genetic broodstock reserves and captive propagation of stocks from the lower Colorado River basin in Lake Mohave, Arizona, and relates broodstock development at Dexter NFHTC to upper and lower basin needs. The purpose of this document is twofold: to provide the framework for maintaining genetic reserve populations of razorback that serve as broodfish, and to provide a captive propagation strategy that ensures production fish adequately represent the available razorback genome.

Manuel Ulibarri, Dexter NFH&TC



Researchers Develop Protocols for Marking Woundfin with Visual Implant Elastomer (VIE) Tags

This project is being conducted cooperatively at Dexter NFH&TC with the Virgin River Resource Management and Recovery Program, Utah Division of Wildlife, and Utah State University. The goal of the project is to establish a VIE marking protocol that maximizes survival of woundfin stocked into the Virgin River basin, and to determine tag retention and potential impacts this technique may have on fish survival. Phase I of the project has been completed at Dexter and includes marking the fish in several locations of the body; determining tag retention and survival for various treatments and developing post-tag treatment protocols that promote healing of the injection area and prevent post-tag infections. Tag retention for fish marked over a 2-month period was 98.9% and survival was 99%. Fish marked over a 9-month period had 93% tag retention and 98% survival. The study is scheduled to end in April of 2005.

Manuel Ulibarri, Dexter NFH&TC

-USFWS
Woundfin used in VIE retention study

-USFWS
NMFRO staff work with Bitter Lake NWR staff to study Pecos bluntnose shiner.

New Mexico FRO works with Bitter Lake NWR to Study the Pecos River Fish Community and Habitat Conditions

The U.S. Fish and Wildlife Service's New Mexico FRO and Water Resources Office collected baseline fish community, habitat, and geomorphology data on the Pecos River at Bitter Lake National Wildlife Refuge (BLNWR) in January 2005. Data collected were in association with a proposed river restoration project at BLNWR. River restoration efforts would aid in restoring a portion of the river to pre-channelization conditions thus improving in-stream habitat for the federally protected Pecos bluntnose shiner *Notropis simus pecosensis,* and other Pecos River fishes. In addition, New Mexico FRO continued to collect fish population data on the Pecos River fish community from Sumner Dam downstream to Brantley Dam, New Mexico. Pecos River fish population monitoring conducted by New Mexico FRO is currently in its 19th consecutive year.

Jason Davis & Stephen Davenport, New Mexico FRO

San Marcos NFH & TC Biologists Discover Several New Organisms during Survey of Endangered Aquatic Invertebrates

More species occur in the waters of the Edwards Aquifer of central and west Texas than any other ground-water systems in the world. Three federally endangered invertebrates occur in only a few springs in central Texas. These springs were surveyed to assess the status of these listed species. Presence of the truly rare Comal Springs dryopid beetle and the Comal Springs riffle beetle were verified in the only two sites that they had been collected in a survey 10 years prior. The numerous Peck's cave amphipods collected from Comal Springs were usually orange in color while at Hueco Springs only a few were found and they were the typical white color. These color differences could be a byproduct of diet. This species produced many young while in captivity at the SMNFHTC where a refugium population will likely be established.

During this survey several new species and range extensions of other subterranean animals were discovered. These included the collection of rare amphipods, blind predacious diving beetles and both surface and cave salamanders in areas where they were previously unknown. Also, two previously unknown invertebrate species were discovered from Comal Springs. One of these is a very rare and primitive amphipod in the family Ingolfiellidae, which is currently being described with a related species recently discovered in Mexico. This will be the first record of ground water species in this group on the North American continent.

Randy Gibson and Joe N. Fries, San Marcos NFH&TC

Peck's cave amphipod brooding young at San Marcos NFH&TC.

Fisheries Program Efforts Reach a Variety of Audiences

The conservation work of the Fisheries Program was featured in newspapers, Web sites, and in magazine articles written by RO staff. The Sunday New York Times published an essay on habitat conservation, titled *Nature has a way of finding us all*. ESPNOutdoors.com featured a story on the benefits of non-native catfish removal from the San Juan River in NM. The Federation for Wild Trout published an article on Gila trout, and the Web site, huntnfish.com

published a story about New Zealand mudsnail prevention, as did the New Mexico Outdoors Guide. The New Mexico Outdoors Guide also carried a story about giant salvinia control and prevention. Lastly, alligator snapping turtle conservation work at Tishomingo NFH was featured in Fish & Wildlife News.
Craig Springer, Regional Office

In some parts of the country channel catfish are an aquatic nuisance species.

New Version of the National Wild Fish Health Survey Manual Arriving Soon

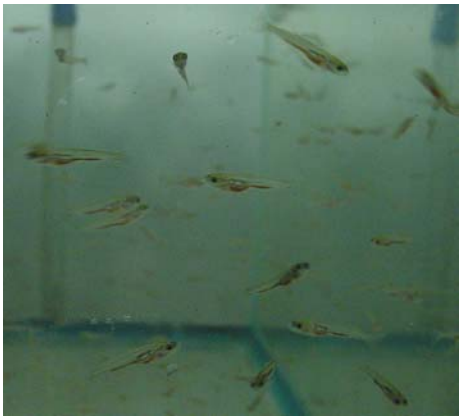
Annually all U.S. Fish and Wildlife Service, Fish Health Centers review procedures and protocols for fish pathogen testing. These procedures and protocols were developed to be scientifically defensible and consistently applied at each of nine National Fish Health Centers within the USFWS. Fish pathogen testing is a vital part of the effort to protect and restore native and sport fish populations within the United States. Wild (free-ranging) fish are sampled through the National Wild Fish Health Survey in cooperation with our federal, tribal, state, and university partners.
This year Jason Woodland, Fish Biologist stationed at the Pinetop Fish Health Center in Arizona, volunteered to be the Chair Person and Editor for the National Wild Fish Health Survey (NWFHS) procedures and protocols manual revision. Currently, Jason and the rest of the NWFHS Procedures Committee are working on the 3rd version of this manual and are scheduled to have the final draft completed by this summer. Once completed, this manual will be available via the web. Web access will make this document available to all our partners as well as the general public. To view the current version (2nd version) you may access it through the web at http://wildfishsurvey.fws.gov/.
Phil Hines, Pinetop FHC

-USFWS
Jason Woodland, Fish Biologist at Pinetop FHC, currently serves as Chair and Editor of the 3rd Version of the Wild Fish Health Survey Procedures and Protocols Manual.

Environmental Education and Outreach Activities Held at Inks Dam NFH

The Inks Dam NFH staff provided environmental education and aquatic resource conservation and management information to many diverse groups. Due to the location and programs conducted at Inks Dam NFH, it has become a valuable Service facility for providing environmental and aquatic resource education. Not only is the facility managed as a fish hatchery, but it is also managed as a wildlife area. Excellent wildlife viewing opportunities exist for mammals, migratory waterfowl and birds, as well as neotropical birds. Tours and outreach activities have been conducted for many diverse groups, such as: Wimberly Birding Society, Texas Master Naturalists, Texas 4H Conglomerate, Lake Travis Middle School, Burnet Elementary, Inks Lake State Park Heritage Committee, Inks Lake Advisory Panel, Rotary Clubs, and various scouting groups. Inks Dam NFH will continue to develop the facilities and conduct outreach activities that will increase public use and enjoyment.
Marc Jackson, Inks Dam NFH

-USFWS
The 1st Annual Inks Dam NFH Turtle Races were held at the Burnet Elementary Science Fair. The undisputed winner was a turtle named "Big Mama."



-USFWS
Wild-caught larval razorback sucker are brought into Willow Beach NFH where there are raised to a larger size before returning back into the wild.

Willow Beach NFH Works with Partners to Recover Endangered Razorback Sucker

The U.S. Fish and Wildlife Service Fisheries Program established a clear vision to work with partners to restore and maintain fish and other aquatic resources at self-sustaining levels. To achieve this vision, the Willow Beach National Fish Hatchery is working closely with personnel from the U.S. Bureau of Reclamation, the National Park Service, and the states of Arizona and Nevada to rear the endangered razorback sucker. Larval razorbacks are collected from spawning areas in Lake Mohave (Colorado River) and brought to the hatchery where they are grown to a larger size (>350 mm) before released back into the river. So far this year, over 20,000 larval razorbacks of the anticipated 65,000 are currently on station. This imperiled species was once widely distributed and abundant in the mainstream and major tributary rivers of the Colorado River, however, the number of individuals has drastically declined during the last 50 years because of major changes in its riverine ecosystem. This decline has been so extensive that razorbacks now occupy only a small fraction of their historic range.

Chester R. Figiel, Jr., Willow Beach NFH

Mora NFH & TC Prepares for Feed Trial Experiments

Mora NFH & TC is preparing their facility for a collaborative research effort on perfecting larval diets for cutthroat and Gila trout. Improvements in cutthroat and Gila trout starter diets are needed to optimize survival, fin and opercula quality, and growth. A series of studies will be conducted to determine if feeds specifically developed for cutthroat trout and Gila trout produce higher survival and growth than a commercial trout feed. Mora is working with Colorado State University, University of Idaho, Cline Trout Farms of Colorado, Agriculture Research Services of the Department of Agriculture, Nelson & Sons 'Silver Cup Feeds' from Utah, and Bozeman NFH&TC. The Western Regional Aquaculture Center (WRAC) funded studies are focused primarily on cutthroat trout, and whether a change in diet will allow cost effective, commercial rearing of these difficult to rear species.

John Seals, Mora NFH&TC

-USFWS
The new setup at Mora allows for a smaller footprint and uses larger water valves.

Uvalde NFH Prepares for 2nd Phase of Construction

The Uvalde NFH is finalizing the plans for the second phase of a significant reconstruction program. The program's goal is to increase the hatchery's capabilities in many areas—native fish production, threatened & endangered species refuge, and research—while achieving water conservation. Engineering and hatchery staff have been reviewing the plans and specifications for the interior of the Rearing Building, Texas Wildrice Pad, and water conditioning/reuse system. Construction is tentatively scheduled to start in July 2005.

Jae Ahn, Uvalde NFH

-USFWS
The new administration and rearing buildings completed during Phase I of Uvalde NFH construction project.

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